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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,691

05/08/2005

Jill Van Winkle

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EXAMINER

KUMAR, VINOD

ART UNIT

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1638

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,691	Applicant(s) VAN WINKLE ET AL.	
	Examiner Vinod Kumar	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/6/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Objections and Rejections

1. Office acknowledges the receipt of Applicant's request for continued examination (RCE) filed in the paper of 03/27/2007. Claims 1-11, and newly added claims 12-15 are pending. Claims 1-15 are examined on merits in the instant Office action.

Claim Objections

2. Claims 1, 6, 11 and 15 are objected to because of the following informalities:

In claim 1, line 5, replace "to control plants" with --as compared to a non-transgenic control plant.

In claims 6, 11, and 15, line 1, replace "a" after "from" and before "plant" with --the--.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-11 remain and newly added claims 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Alexandrov et al. (EP1033405, Published June 9, 2000) taken together with the evidence of Winkle et al. (US Patent Publication No. US 2005/0257294 A1)

Alexandrov et al. disclose a method of producing a transgenic plant comprising a polynucleotide sequence encoding a polypeptide of SEQ ID NO: 33003 which has 100% sequence identity to instant SEQ ID NO: 2. The reference discloses transforming a plant cell with an expression vector comprising said polynucleotide sequence operably linked to a promoter, obtaining transgenic plant and seed from the plant cell that expresses said polypeptide, or wherein said promoter is constitutive. See in particular, pages 341, 343, claims 1, 25, 29-34; page 326, paragraph 2279; page 327; page 329, paragraphs 2301-2308. The property of drought tolerance is inherent to the method comprising expressing a polynucleotide sequence encoding the polypeptide of SEQ ID NO: 33003 disclosed in the reference. The inherent property of SEQ ID NO: 33003 is further evidenced by the disclosure of Winkle et al., who disclose a method of making a transgenic plant with increased drought tolerance, comprising expression of a polynucleotide sequence encoding a polypeptide (SEQ ID NO: 2) which has 100% sequence identity to SEQ ID NO: 33003 disclosed by Alexandrov et al.

In the paper of 03/27/2007, Applicants argue that Alexandrov et al. do not suggest or disclose a transgenic plant with increased drought tolerance comprising a plant transformation vector which comprises a nucleotide sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence

identity to SEQ ID NO: 2 and including a Dof-type zinc finger domain. Applicants further argue that the teachings of Alexandrov et al. are insufficient to establish anticipation based upon the principal of inherency because Alexandrov et al. do not make it clear that the drought tolerance is necessarily present in SEQ ID NO: 2 that would be recognized by a person of ordinary skill (response, last paragraph bridging the pages 5 and 6).

Applicant's arguments were fully considered but were not found to be persuasive. It is maintained that pages 341; 343; claims 1, 25, 29-34; page 326, paragraph 2279; page 327; page 329, paragraphs 2301-2308 of the reference clearly disclose a method of making a transgenic plant comprising introducing and expressing a polynucleotide sequence encoding SEQ ID NO: 33003 which has 100% sequence identity to instant SEQ ID NO: 2. Furthermore, as SEQ ID NO: 33003 of the reference anticipates instant SEQ ID NO: 2, it would inherently comprise Dof-type zinc finger domain. It is further maintained that the property of drought tolerance is inherent to the method of making a transgenic plant comprising expression of SEQ ID NO: 33003 disclosed in the reference. It must be noted that Alexandrov et al. method steps of making a transgenic plant using a polynucleotide sequence encoding SEQ ID NO: 33003 are identical to the instant method steps of instantly claimed method of making a transgenic plant using SEQ ID NO: 1. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, rather than any distinct definition of any of the claimed invention's limitations, then preamble is not considered a limitation and is of no significance to claim construction. See MPEP 2111.02. Also see In re Cruciferous

Sprout Litig., 301 F.3d 1343,1346-48, 64 USPQ2d 1202, 1204-05 (Fed. Cir. 2002) where a claim at issue was directed to a method of preparing a food rich in glucosinolates wherein cruciferous sprouts are harvested prior to the 2-leaf stage. The court held that the preamble phrase "rich in glucosinolates" helps define the claimed invention, as evidenced by the specification and prosecution history, and thus is a limitation of the claim (although the claim was anticipated by prior art that produced sprouts inherently "rich in glucosinolates"). Furthermore, see *Integra LifeSciences I Ltd. V. Merck KGaA* 50 USPQ2d 1846, 1850 (DC Scalif 1999), which teaches that where the prior art teaches all of the required steps to practice the claimed method and no additional manipulation is required to produce the claimed result, then prior art anticipates the claimed invention.

Accordingly, Alexandrov et al. anticipated the claimed invention.

4. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Harper et al. (US Patent Publication taken together with the evidence of Winkle et al. (US Patent Publication No. US 2004/0009476 A9, filed August 24, 2001, Provisional 60/227,866 filed August 24, 2000).

Harper et al. disclose a method of producing a transgenic plant comprising a polynucleotide sequence encoding a polypeptide of SEQ ID NO: 1986 which has 100% sequence identity to instant SEQ ID NO: 2. The reference discloses transforming a plant cell with an expression vector comprising said polynucleotide sequence operably linked to a promoter, obtaining transgenic plant and seed from the plant cell that expresses said polypeptide, or wherein said promoter is constitutive. See in particular,

abstract; paragraphs 0016-0017, 0031-0033, 0039, 0041, 0057-0060, 0079-0080, 0093-0106, 0113-0123, 0145-0153, 0158-0177. Also see Table 1 (cites GenBank Sequence accession No. GI:3790583 for Dof-type zinc finger domain), and paragraph 0054 which clearly discloses abiotic stress (including drought) tolerant properties of the nucleotide sequence(s) disclosed in the reference.

It may be emphasized that the property of drought tolerance is also inherent to the method comprising expressing a polynucleotide sequence encoding the polypeptide of SEQ ID NO: 1986 disclosed in the reference. The inherent property of SEQ ID NO: 1986 is further evidenced by the disclosure of Winkle et al., who discloses a method of making transgenic plants with increased drought tolerance comprising expression of a polynucleotide sequence encoding a polypeptide (SEQ ID NO: 2) which has 100% sequence identity to SEQ ID NO: 1986 disclosed by Harper et al.

In the paper of 03/27/07, Applicant's argue that Harper et al. do not disclose drought tolerant transgenic plant. Applicants argue that Tables 3-5, 7-9, 11-13, 15-17, 21-23, 24-26 of Harper et al. do not indicate or suggest drought tolerant properties of SEQ ID NO: 1986. Applicants further argue that the reference discloses that the transcripts encoding SEQ ID NO: 1986 were induced by salt and cold. Applicants further argue that the reference does not even disclose induction of said transcripts under mannitol treatment (response, last paragraph bridging the pages 6 and 7 through the end of page 7).

Applicant's arguments were fully considered but were not found to be persuasive. Applicants must note the following:

(a) Instant claims are directed to expression of a nucleotide sequence encoding SEQ ID NO: 2 in a transgenic environment. This implies that the nucleotide sequence encoding instant SEQ ID NO: 2 is not subjected to similar transcriptional regulation as one would expect from its native counterpart present within the plant genome. While the endogenous SEQ ID NO: 2 is expressed under a stress (drought) inducible promoter, the transgenic SEQ ID NO: 2 could be constitutively expressed.

(b) Harper et al. do not suggest or indicate that transgenic expression of a nucleotide sequence encoding SEQ ID NO: 1986 under a promoter (e.g. constitutive) would not result in drought tolerant transgenic plant.

(c) Applicant's attention is also drawn to Table 1 wherein reference clearly cites SEQ ID NO: 1986 a Dof-type zinc finger domain containing protein, and

(d) Harper et al. data presented in tables 3-5, 7-9, 11-13, 15-17, 21-23 and 24-26 is based on endogenous expression of a stress-related polynucleotides which are regulated by their native stress-responsive promoter(s). This data does not provide evidence against the drought tolerant property of the product (SEQ ID NO: 1986), which the latter inherently possesses as evidenced by Winkle et al.

Applicants are also reminded that when the reference relied on expressly anticipates all of the elements of the claimed invention, the reference is presumed to be operable or enabling. See *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). See also MPEP § 716.07. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, rather than any distinct definition of any of the claimed invention's limitations, then preamble is not considered a limitation and is of no

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significance to claim construction. See MPEP 2111.02. Also see *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1346-48, 64 USPQ2d 1202, 1204-05 (Fed. Cir. 2002) where a claim at issue was directed to a method of preparing a food rich in glucosinolates wherein cruciferous sprouts are harvested prior to the 2-leaf stage. The court held that the preamble phrase "rich in glucosinolates" helps define the claimed invention, as evidenced by the specification and prosecution history, and thus is a limitation of the claim (although the claim was anticipated by prior art that produced sprouts inherently "rich in glucosinolates"). Furthermore, see *Integra LifeSciences I Ltd. V. Merck KGaA* 50 USPQ2d 1846, 1850 (DC Scalif 1999), which teaches that where the prior art teaches all of the required steps to practice the claimed method and no additional manipulation is required to produce the claimed result, then prior art anticipates the claimed invention.

Accordingly, Harper et al. anticipated the claimed invention.

Conclusions

5. Claims 1-11 remain and newly added claims 12-15 are rejected.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-5444. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Phuong T. Bui', with a long horizontal stroke extending to the right.

PHUONG T. BUI
PRIMARY EXAMINER